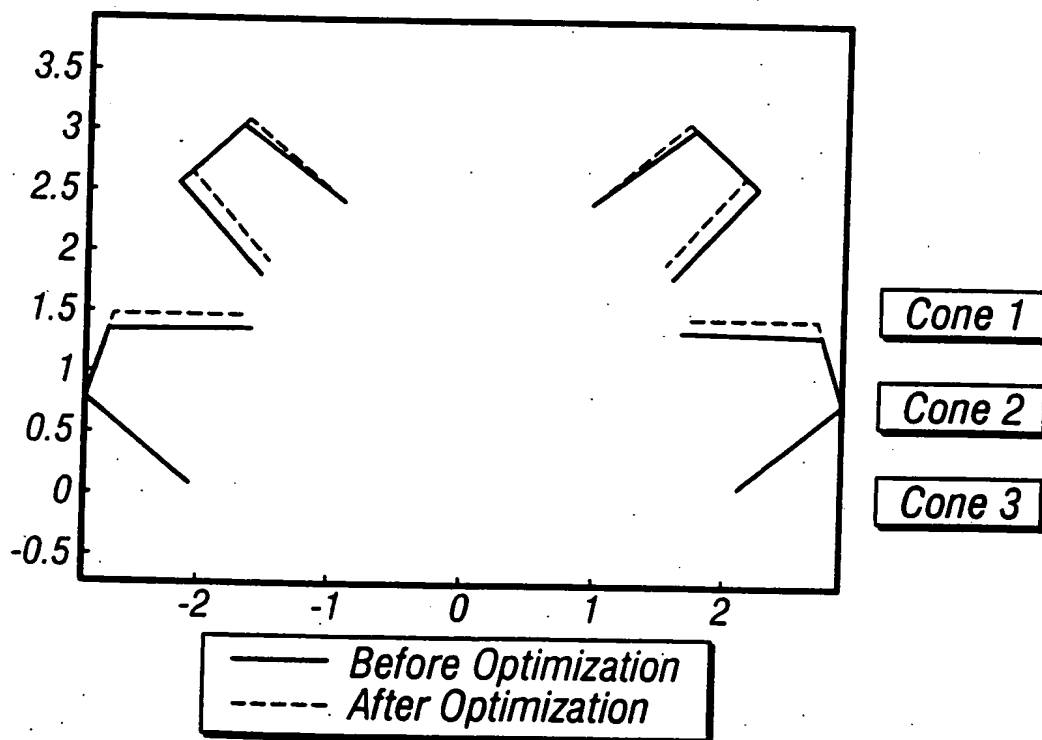
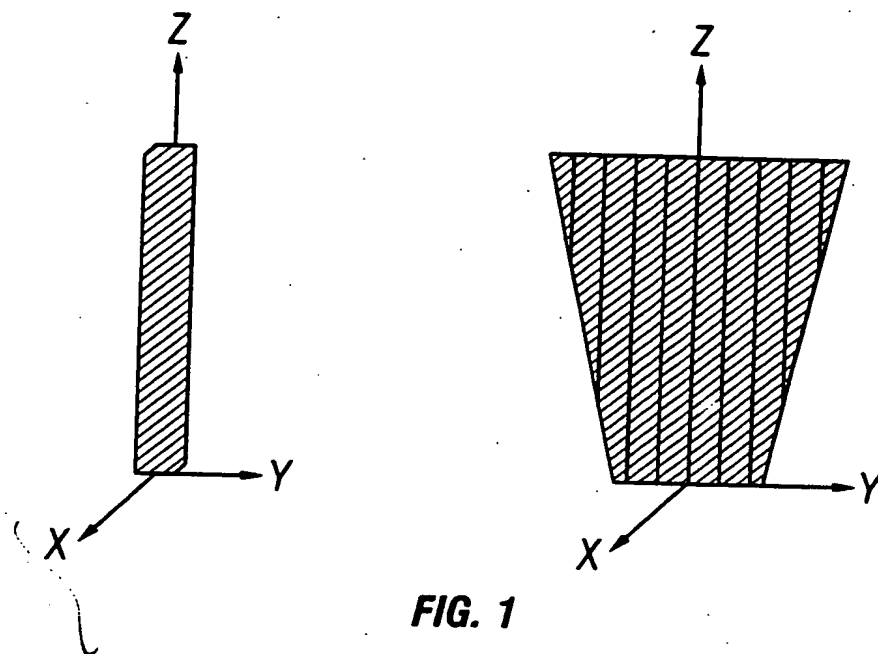


**FORCE-BALANCED ROLLER-CONE BITS,  
SYSTEMS, DRILLING METHODS, AND  
DESIGN METHODS**

Inventor: Shilin Chen  
Date Filed: January 27, 2004  
Attorney's Docket: 074263.0211 (SC-98-025 C3-B)  
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L/O

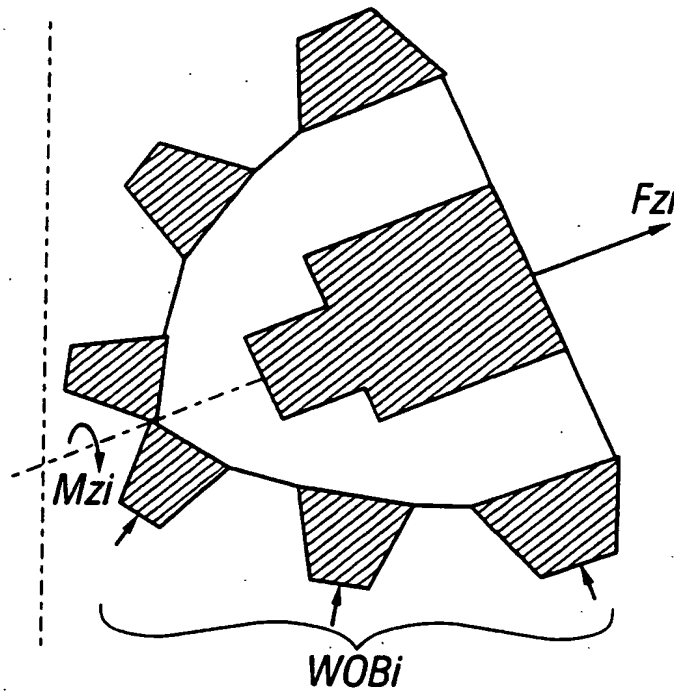


FIG. 2

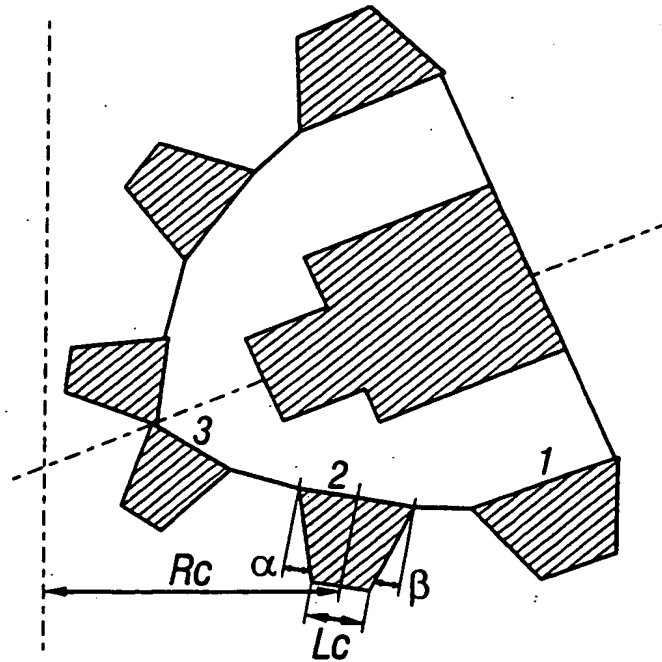
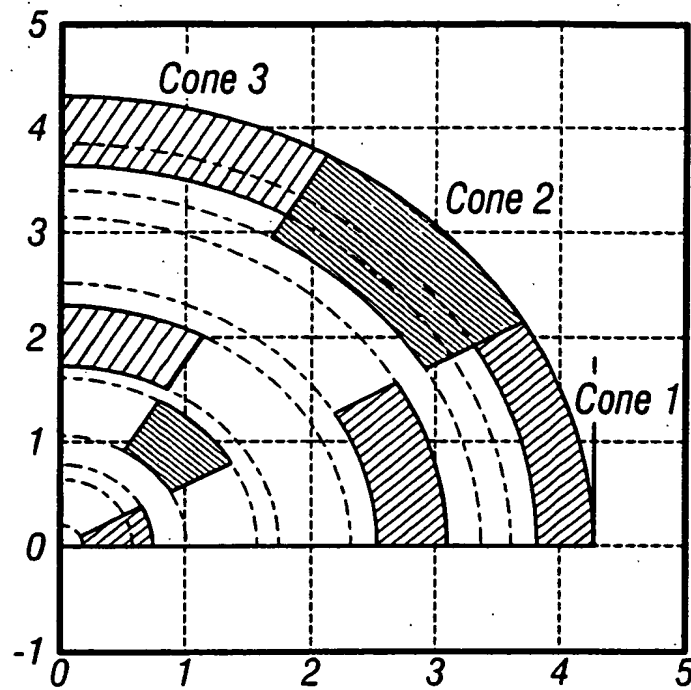
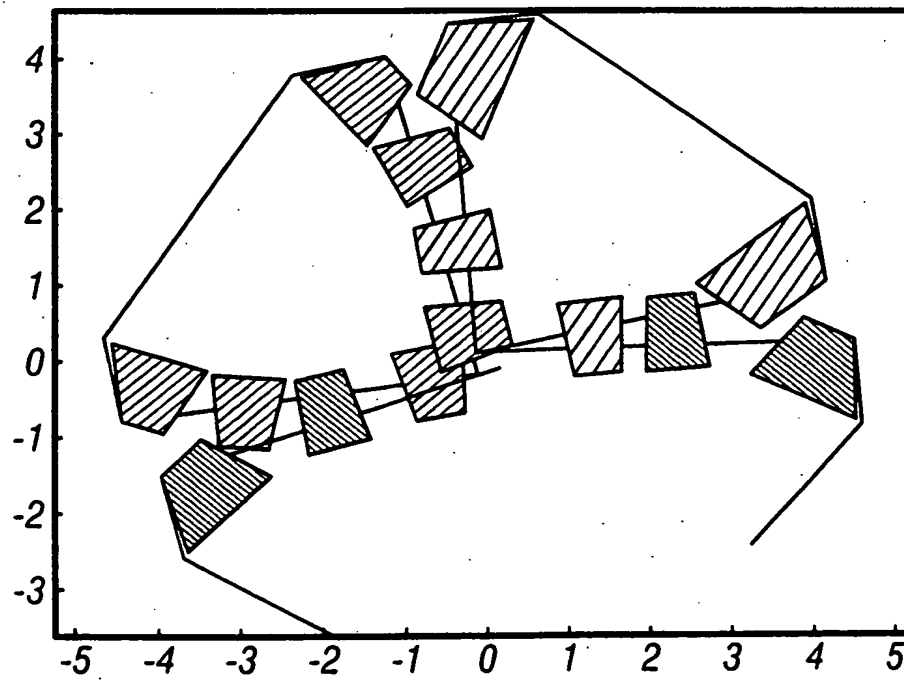


FIG. 3



**FIG. 4**



**FIG. 5**

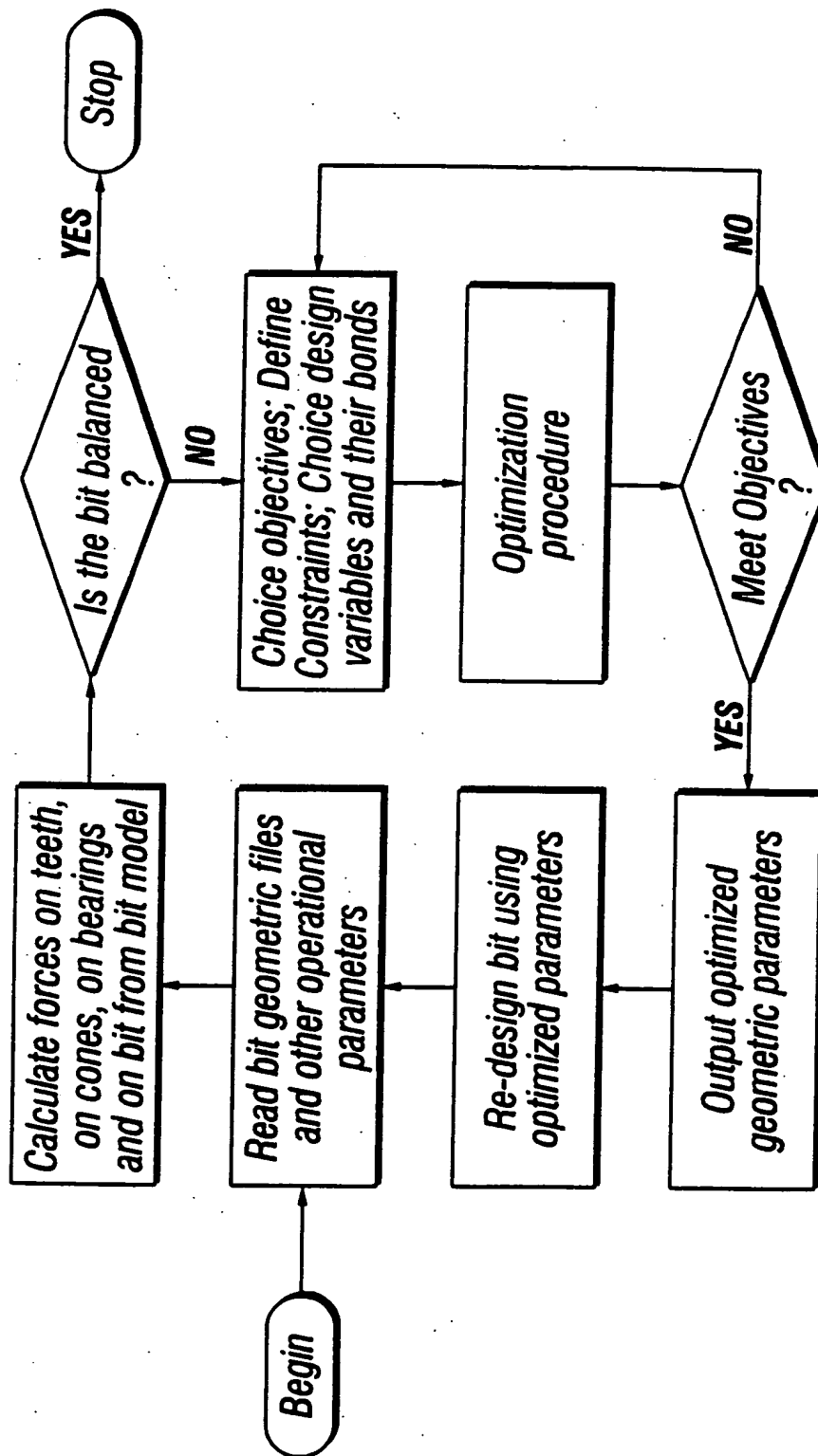


FIG. 6

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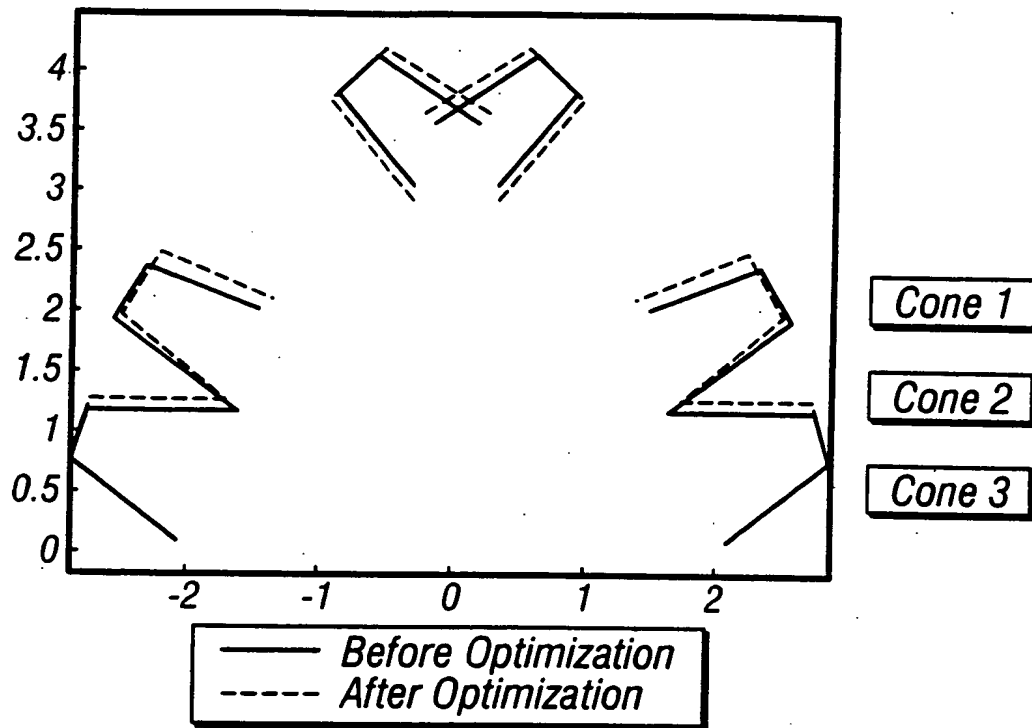


FIG. 7A

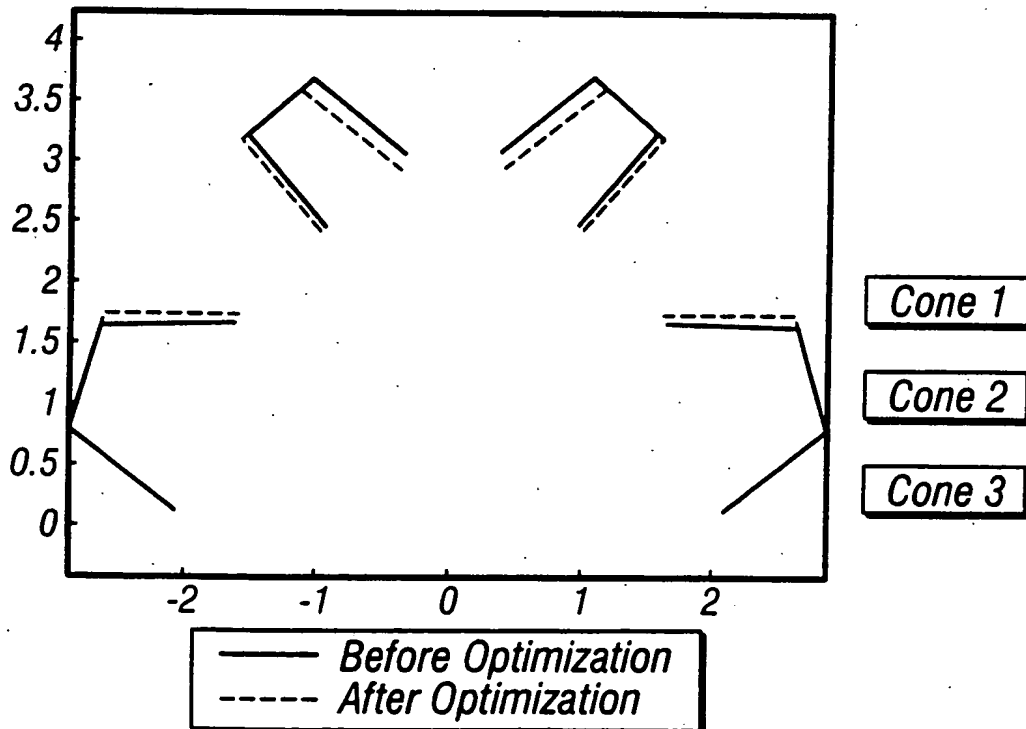


FIG. 7B

U/O

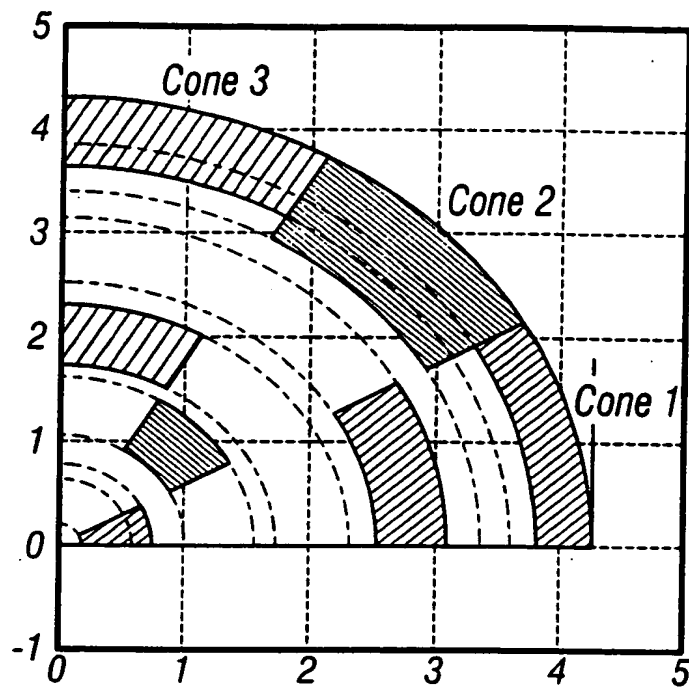


FIG. 8A

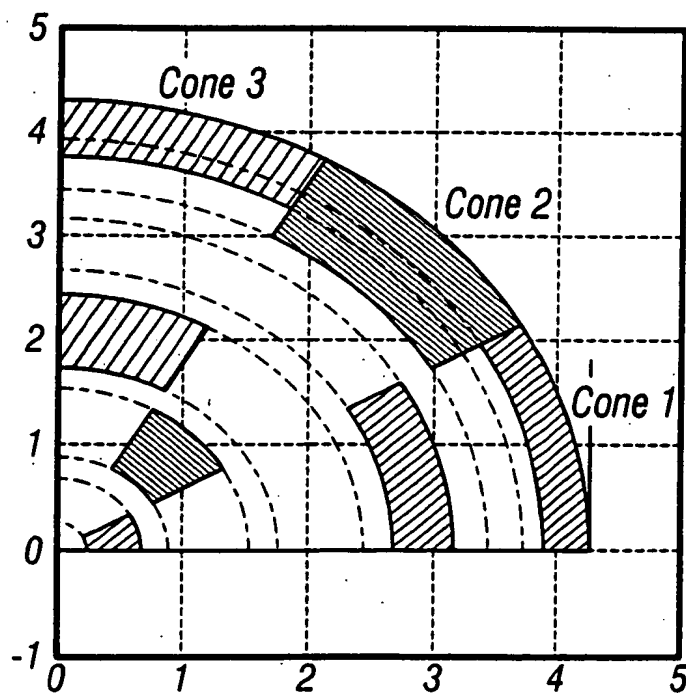
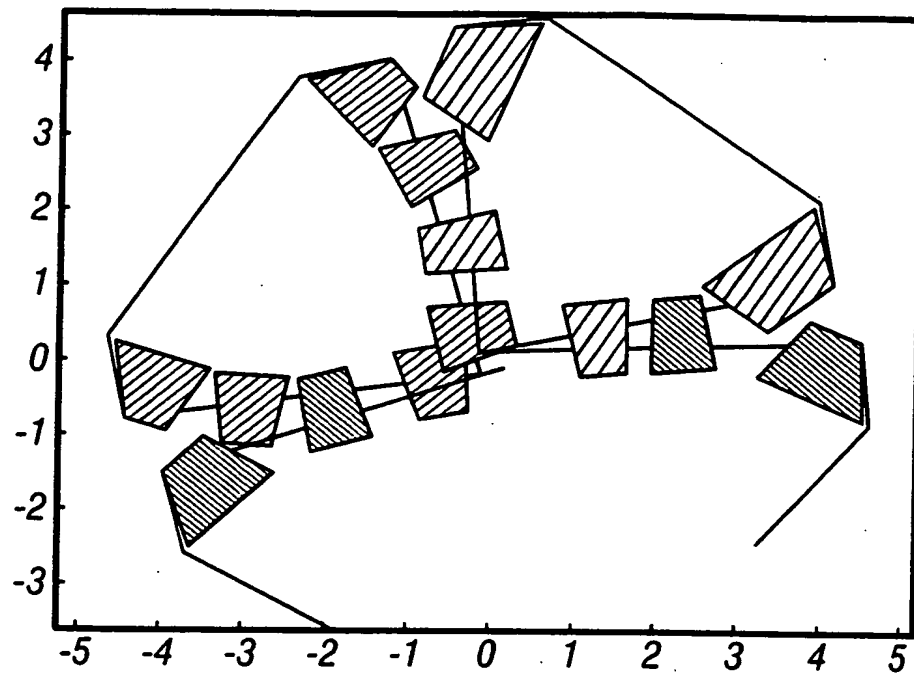


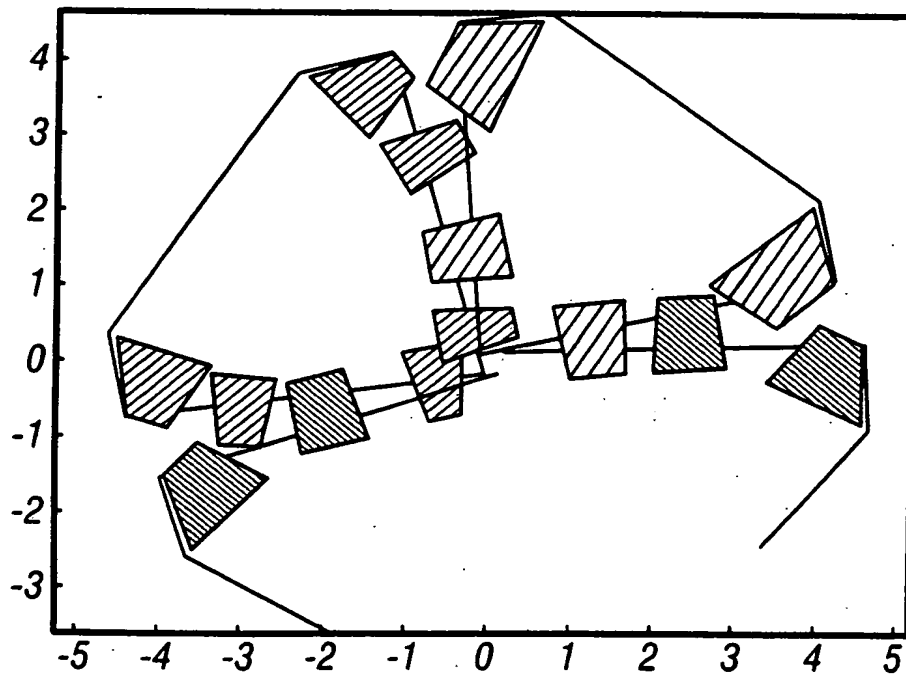
FIG. 8B

**FORCE-BALANCED ROLLER-CONE BITS,  
SYSTEMS, DRILLING METHODS, AND  
DESIGN METHODS**

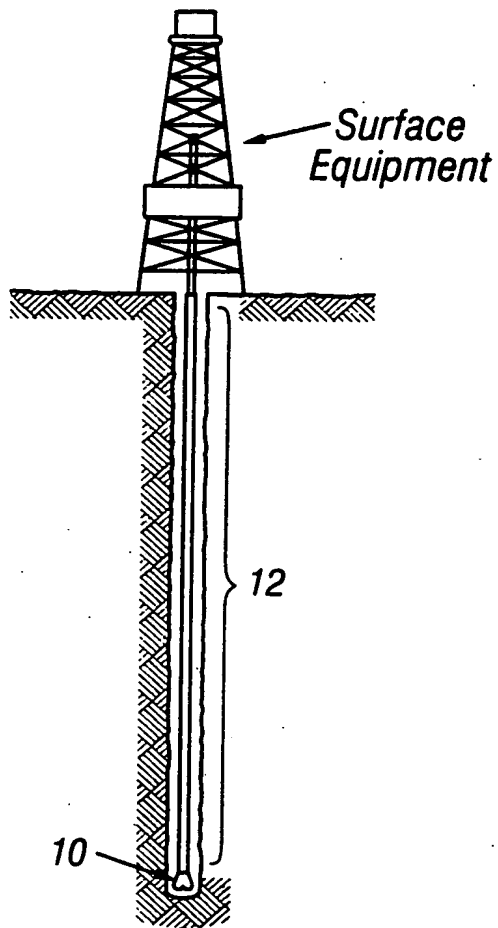
Inventor: Shilin Chen  
Date Filed: January 27, 2004  
Attorney's Docket: 074263.0211 (SC-98-025 C3-B)  
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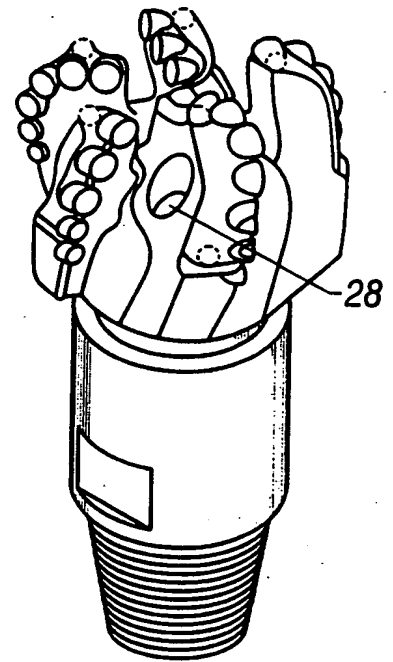
**FIG. 9A**



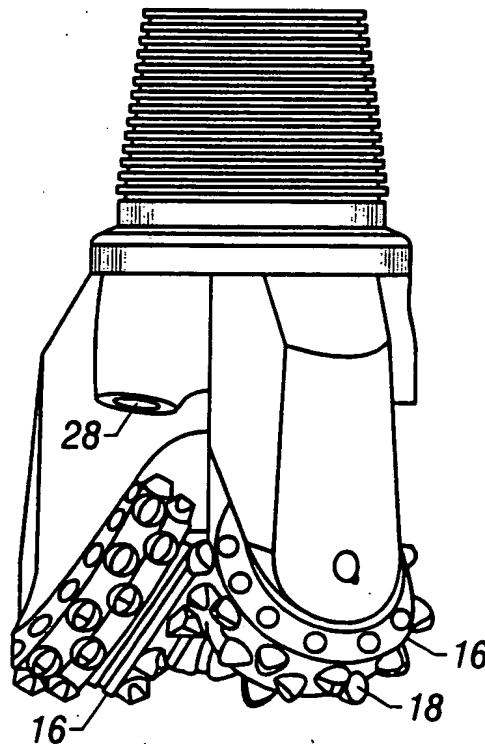
**FIG. 9B**



**FIG. 10**



**FIG. 11**



**FIG. 12**